- 1. A method of synthesizing a reverse model of a control system comprising:transforming a transition function of the control system into a constraint on the reverse
 model; and
 - applying a parameterization of said constraint to all transitions of the reverse model.
- 2. A method of synthesizing a reverse model of an electronic circuit, the method comprising:

transforming a transition function of said electronic circuit into a constraint on the reverse model; and

applying a parameterization of said constraint to all transitions of the reverse model.

- 3. The method as claimed in claim 2 wherein said electronic circuit includes a logic circuits.
- 4. The method as claimed in claim 2 wherein said electronic circuit includes a microprocessor.
- 5. A method of calculating the post-image in a control system, the method comprising:

forming a reverse model of said control system; and

calculating the pre-image in said reverse model, wherein the pre-image in said reverse model is equivalent to the post-image in said control system.

- 6. The method of claim 5 further comprising identifying from a characterization of a model of said control system, transitions of said control system and reversing said transitions to form potential transitions of a reverse model.
- 7. The method of claim 5 and further comprising extracting from a characterization of a model of said control system, transition functions of said control system.

8. A method of calculating the post-image in an electronic circuit, the method comprising:

forming a reverse model of said electronic circuit; and

calculating the pre-image in said reverse model, wherein the pre-image in said reverse model is equivalent to the post-image in said electronic circuit.

- 9. The method as claimed in claim 8 wherein said electronic circuit includes a logic circuits.
- 10. The method as claimed in claim 8 wherein said electronic circuit includes a microprocessor.
- 11. The method of claim 8 further comprising identifying from a characterization of a model of said electronic circuit, transitions of said electronic circuit and reversing said transitions to form potential transitions of a reverse model.
- 12. The method of claim 8 and further comprising extracting from a characterization of a model of said electronic circuit, transition functions of said electronic circuit.
- 13. A device for synthesizing a reverse model of an electronic circuit, the device comprising:

a first store storing bits representative of transition functions of said electronic circuit;

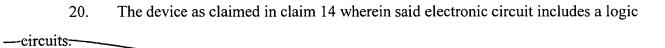
a second store storing bits representative of an estimate of transition functions of said reverse model; and

a processing system comprising

a logical device for transforming said transition functions of said electronic circuit into constraints on said reverse model; and

a parameterization processor for applying a parameterization of said constraints to said estimate of transition functions of said reverse system to form transition functions of said reverse model.

- 14. A device for calculating the post-image in an electronic circuit comprising:
 a third store storing bits representative of transition functions of a reverse model of said electronic circuit;
- a fourth store storing bits representative of a set of states of said electronic circuit; and a forming device substituting the state variables of the reverse model by the transition functions of the reverse model to provide a new set of states representing the pre-image of said reverse model, and thus provide the post-image in said electronic circuit.
- 15. A device as claimed in claim 14 further comprising a first store storing bits representative of transition functions of said electronic circuit;
- a second store storing bits representative of an estimate of transition functions of said reverse model;
- a logical device for transforming said transition functions of said electronic circuit into constraints on said reverse models; and
- a parameterization processor for applying a parameterization of said constraints to said estimate of transition functions of the reverse system to form transition functions of said reverse model.
- 16. A device as claimed in claim 13 wherein said estimate of transition functions of said reverse model comprises previous state variables of said electronic circuit.
- 17. A device as claimed in claim 15 wherein said estimate of transition functions of said reverse model comprises previous state variables of said electronic circuit.
- 18. The device as claimed in claim 13 wherein said electronic circuit includes a logic circuits.
- 19. The device as claimed in claim 13 wherein said electronic circuit includes a microprocessor.



21. The device as claimed in claim 14 wherein said electronic circuit includes a microprocessor.